



Forestry Science Skills Checklist

Pilot 2006 -2007 Rev. 09-06

#44150

Member's Name: _____

Mastering these forestry science skills will provide a solid foundation upon which the member may build. To achieve success in this project the skills listed below will help 4-H leaders know what to teach and 4-H members to know what to learn. Have your 4-H leader initial and date each skill completed. Each level may take more than one year to complete.

Level 1

Date
Completed Approved By

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 1. List and describe 3 key roles of forestry..... | _____ | _____ |
| 2. List 5 types of trees that live in Idaho Forests..... | _____ | _____ |
| 3. Define forestry..... | _____ | _____ |
| 4. List and describe parts of a tree..... | _____ | _____ |
| 5. List and describe the different climates in which trees can live..... | _____ | _____ |
| 6. Explore, describe, and draw a picture of a forestry site in your county in Idaho..... | _____ | _____ |
| 7. Demonstrate the (Hydrologic) water cycle | _____ | _____ |
| 8. Identify water use by trees of the past, present, and future | _____ | _____ |
| 9. Interview a forest manager and describe 2 tasks they do, 2 management tools they use, 2 employment (jobs) and 2 areas of study..... | _____ | _____ |
| 10. Explain how to age trees by counting their rings..... | _____ | _____ |
| 11. Explore and draw a hillside and label the positions on the slope where different grasses may occur | _____ | _____ |
| 12. Understand and describe 5 aspects of forest ecology | _____ | _____ |
| 13. Take a hike in a forestland area for 30 minutes, record the experience as a picture, drawing, or journal entry | _____ | _____ |
| 14. Explain what tree communities are and how they benefit forestry | _____ | _____ |
| 15. Identify three(3) microclimates found in forest land | _____ | _____ |
| 16. Draw and explain a diagram in the forestry food web | _____ | _____ |
| 17. Draw and describe steps of primary succession..... | _____ | _____ |
| 18. Collect 5 distinct forest plant samples and discuss the differences and why they are different | _____ | _____ |
| 19. Identify, make a picture record, or drawing of 5 different plants, 5 animals that live on forest land, in forest supported waters, or both | _____ | _____ |
| 20. Identify 5 ways to manage forests sustainably..... | _____ | _____ |
| 21. Make a list of current local forestry issues and investigate one | _____ | _____ |
| 22. Place historical forest events on a timeline | _____ | _____ |
| 23. Read a topographic map for trips and to locate forests | _____ | _____ |
| 24. Interview a local family that manages forestland | _____ | _____ |



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Level 2

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 1. List and describe 5 human activities that can improve forestry and five that can degrade forestry | _____ | _____ |
| 2. Describe and explain the process of photosynthesis | _____ | _____ |
| 3. Explain the tree life cycle | _____ | _____ |
| 4. Identify and record in a journal, pictures or scrapbook 10 important forestry management practices that enhance sustainability of forestland for domestic animals and/or wildlife | _____ | _____ |
| 5. Build a wetland model and explain why wetlands are important to forestland quality | _____ | _____ |
| 6. Outline a watershed using topographic maps in your community or construct a 3-D watershed model and identify forestry succession orders | _____ | _____ |
| 7. Locate and identify 5 tree diseases and 5 types of forest insect damage | _____ | _____ |
| 8. Investigate invasive species and forest habitats | _____ | _____ |
| 9. Recognize the risk of fire damage to forests | _____ | _____ |
| 10. Find forestry information from (5) different types of forests or states on the Internet | _____ | _____ |
| 11. Conduct a forestland protection assessment | _____ | _____ |
| 12. Measure the height, width, and volume of a standing tree | _____ | _____ |
| 13. Compare and contrast forestry use in your community in past, present, and future | _____ | _____ |
| 14. Identify and research a forestry resource issue in your community including interviews with at least 2 forestry resource professionals (recreationist, industry, agriculture, land managers, elected officials) | _____ | _____ |
| 15. Take a younger age group on a forest walk | _____ | _____ |
| 16. Identify and research one forestry species that is listed as Threatened or Endangered and explain why they are threatened or endangered. | _____ | _____ |
| 17. Draw or make a collage of a forest food web. Describe how changes in forestry condition can affect the food web | _____ | _____ |
| 18. Tour and interview experts at a forestry research center | _____ | _____ |
| 19. Attend a natural resource or forestry camp | _____ | _____ |



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Level 3

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| 1. Identify 40 or more trees using a tree key | _____ | _____ |
| 2. Learn major world forest types (biomes) and uses of forests around the world | _____ | _____ |
| 3. Build a forestland model and demonstrate contaminant movement in the soil, water and air | _____ | _____ |
| 4. Design a community action plan to address a urban forestry issue researched..... | _____ | _____ |
| 5. Understand the issues, importance and consequences of trimming trees in an urban forest | _____ | _____ |
| 6. Demonstrate to a younger age group land use effects on forestry using a forestry model..... | _____ | _____ |
| 7. Do a complete forestry walk (including macro invertebrate identification, soil, plant and water chemistry sampling) on two local forestry sites make comparison of forestry health of each | _____ | _____ |
| 8. Identify and research a forestry resource issue in your community including interviews with at least 5 forestry resource professionals (recreationist, industry, agriculture, land managers, elected officials) | _____ | _____ |
| 9. Lead a Land Use Simulation Game. Include your forestry resource issue researched above | _____ | _____ |
| 10. Tour and interview personnel at a plant materials research center, wildlife, or livestock research facility that includes forestry as part of their research mission | _____ | _____ |
| 11. Take a leadership role (camp counselor, instructor, resource person) at a natural resource or forestry camp | _____ | _____ |
| 12. Organize, identify partners, implement, and evaluate a forestry education workshop for your community on an issue important to maintaining Idaho forest land | _____ | _____ |
| 13. Organize, identify partners, implement, and evaluate a forestry research study in your community on an issue important to maintaining Idaho forestland | _____ | _____ |

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Reference

Idaho 4-H Program resources that address forestry and do not require training to use. Items identified in this checklist may be accomplished by selecting activities from the following Idaho 4-H resources:

IDAHO 4-H PROJECTS: Grizzly Mountain Forest, Big Wood Valley, Issues Investigation, Wildlife, 4-H Discovery-Learning Outdoors, Sports Fishing, Survival, EM*Power, Recycle for Reuse, Gardening, and Horticulture – Idaho 4-H Today, Cooperative Extension System, University of Idaho, Moscow, Idaho 83844-3015

Selected Natural Resource and Forestry curriculums or resources that do not require training to use. Items identified in this checklist may be accomplished by selecting activities from the following resources:

Oregon State University, National 4-H Forestry Invitational Materials:

<http://oregon.4h.oregonstate.edu/resources/materials.html>

Wildlife Habitat Evaluation Program National Manual (2005) Oklahoma Cooperative Extension Service, Stillwater, OK. <http://www.whep.org/>

Junior Master Gardener Program (2005) Texas A & M University Press, College Station, TX
www.jmgkids.us

Selected Natural Resource and Forestry resources that may require training before educators/volunteers receive the resource materials. Items identified in this checklist may be accomplished by selecting activities contained in following resources:

College of Natural Resources University of Idaho: <http://www.cnrhome.uidaho.edu/>

GLOBE – www.globe.gov

Idaho - Forestry: <http://www.city-data.com/states/Idaho-Forestry.html>

Idaho Fish and Game - www2.state.id.us/fishgame/index.htm

Idaho Forest Products Commission: <http://www.idahoforests.org/>

Idaho State Forestry Contest-2006:

<http://www.idl.idaho.gov/bureau/ForestAssist/contest2006/contest2006.htm>

Idaho Water Quality Programs (DEQ) - <http://www2.state.id.us/deq/water/water1.htm>

National Arbor Day Foundation: <http://www.arborday.org/>

Project Learning Tree - www.plt.org

Project WET - <http://www.montana.edu/wwwwet/>

Project Wild/Aquatic Wild – <http://www.projectwild.org/>

Senior, Youth, and Volunteer Programs (SYVP): <http://www.fs.fed.us/people/volunteer/>

Society of American Foresters (SAF): <http://www.safnet.org/>

The Ecological Society of America: <http://www.esa.org/>

U.S. Geological Survey: <http://www.usgs.gov/>

UI Extension Forestry and Outreach: <http://www.cnr.uidaho.edu/extforest/>

University of Idaho Extension Forestry: <http://www.extension.uidaho.edu/forestry.asp>

Urban Forest Ecosystems: <http://www.americanforests.org/>

Urban Forestry: <http://www.urban-forestry.com/>

USDA Forest Service – Boise National Forest: <http://www.fs.fed.us/projects/hfi/examples/boise.shtml>

USDA Forest Service: <http://www.fs.fed.us/>

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